

## **SHINDAIWA OWNER'S/ OPERATOR'S MANUAL**

# **HT230 HEDGE TRIMMER**

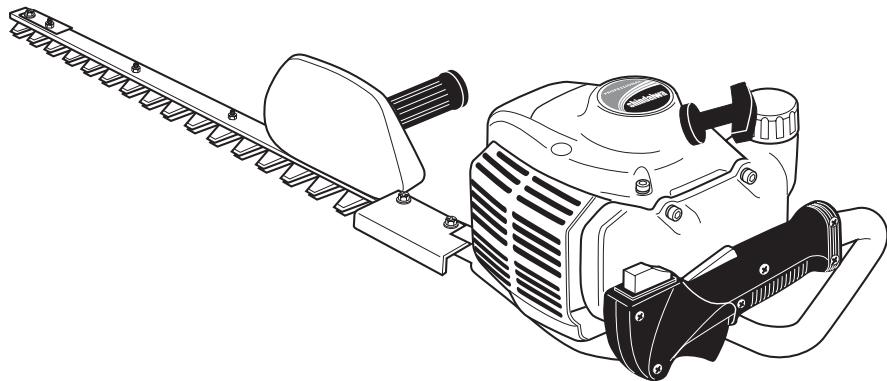
# **shindaiwa®**

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Part Number 80837  
Revision 4/04

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of Shindaiwa, Inc.  
Specifications subject to change without notice.



### **WARNING!**

Minimize the risk of injury to yourself and others! Read this manual and familiarize yourself with the contents. Always wear eye and hearing protection when operating this unit.

Part Number 80837 Rev. 4/04

# **shindaiwa®**

# Introduction

The Shindaiwa HT230 series of hand power tools has been designed and built to deliver superior performance and reliability without compromise to quality, comfort, or durability.

Shindaiwa high performance engines represent the leading edge of 2-cycle engine technology, delivering exceptionally high power at remarkable low displacement and weight. As an owner/operator, you'll soon discover for yourself why Shindaiwa is simply in a class by itself!

## IMPORTANT!

The information contained in this manual describes units available at the time of publication.

While every attempt has been made to give you the very latest information about your Shindaiwa product, there may be some differences between your HT230 series unit and what is described here.

Shindaiwa Inc. reserves the right to make changes to products without prior notification, and without obligation to make alterations to machines previously manufactured.



## WARNING!

The engine exhaust from this unit contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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## MAINTENANCE AND REPAIR REQUIREMENTS

You are responsible for the proper use and maintenance of the engine. You should keep all receipts and maintenance records covering the performance of regular maintenance in the event questions arise. These receipts and maintenance records should be transferred to each subsequent owner of the engine. Shindaiwa Kogyo Co., Ltd. reserves the right to deny warranty coverage if the owner has not properly maintained the engine. Shindaiwa Kogyo Co., Ltd. will not deny warranty repairs, however, solely because of the lack of repair, maintenance or failure to keep maintenance records.

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY A DEALER OR SERVICE CENTER AUTHORIZED BY SHINDAIWA KOGYO CO., LTD. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.

If other than the parts authorized by Shindaiwa Kogyo Co., Ltd. are used for maintenance replacements or for the repair of components affecting emission control, you should assure yourself that such parts are warranted by their manufacturer to be equivalent to the parts authorized by Shindaiwa Kogyo Co., Ltd. in their performance and durability.

## OBTAINING WARRANTY SERVICE

All repairs qualifying under this limited warranty must be performed by a dealer authorized by Shindaiwa Kogyo Co., Ltd.

If any emission-related part is found defective during the warranty period, it is your responsibility to present the product to an authorized Shindaiwa dealer. Bring your sales receipts showing the date of purchase for this engine. The dealer authorized by Shindaiwa Kogyo Co., Ltd. will perform the necessary repairs or adjustments within a reasonable amount of time and furnish you with a copy of the repair order. All parts and accessories replaced under this warranty become the property of Shindaiwa Kogyo Co., Ltd.

To locate an authorized Shindaiwa dealer near you, contact your Shindaiwa Distributor. For the name and telephone number of the Shindaiwa Distributor in your area, please call Shindaiwa Inc. at (503) 692-3070 between the hours of 8:00 AM and 5:00 PM Pacific Standard Time.

## THIS WARRANTY IS ADMINISTERED BY

Shindaiwa Inc.  
11975 S.W. Herman Rd.  
Tualatin OR 97062  
(503) 692-3070

**Shindaiwa Kogyo Co., Ltd.  
Federal Emission Design And Defect Limited Warranty**

**Utility And Lawn And Garden Engines**

Shindaiwa Kogyo Co., Ltd. warrants to the initial purchaser and each subsequent owner, that this utility equipment engine (herein engine) is designed, built and equipped to conform at the time of initial sale, to all applicable regulations of the U.S. Environmental Protection Agency (EPA), and that the engine is free of defects in materials and workmanship that would cause this engine to fail to conform with EPA regulations during its warranty period. This emission warranty is applicable in all States, except the State of California.

For parts listed under PARTS COVERED, the dealer authorized by Shindaiwa Kogyo Co., Ltd. will, at no cost to you, make the necessary diagnosis, repair, or replacement of any defective emission-related component to ensure that the engine complies with applicable U.S. EPA regulations.

**MANUFACTURERS WARRANTY COVERAGE**

When sold within the U.S., this engine's emission control system is warranted for a period of two (2) years from the date this product is first delivered to the original retail purchaser.

**OWNER'S WARRANTY RESPONSIBILITIES**

As the engine owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Shindaiwa Kogyo Co., Ltd. recommends that you retain all receipts covering maintenance on your engine, but Shindaiwa Kogyo Co., Ltd. cannot deny a warranty claim solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the engine owner, you should however be aware that Shindaiwa Kogyo Co., Ltd. may deny your warranty coverage if your engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your engine to the nearest dealer authorized by Shindaiwa Kogyo Co., Ltd. when a problem exists.

If your Shindaiwa Dealer is unable to answer questions regarding your warranty rights and responsibilities, you should then contact your Shindaiwa Distributor.

For the name and telephone number of the Shindaiwa Distributor in your area, please call Shindaiwa Inc. at (503) 692-3070 between the hours of 8:00 AM and 5:00 PM Pacific Standard Time.

**PARTS COVERED**

Listed below are the parts covered by the Federal Emission Design and Defect Warranty. Some parts listed below may require scheduled maintenance and are warranted up to the first scheduled replacement of that part. The warranted parts include:

1. Carburetor Internal Components
  - Valve Assembly-throttle, Jet, Metering Diaphragm
2. Ignition System Components
  - Ignition Coil
  - Flywheel Rotor

The emission control system for your particular Shindaiwa engine may also include certain related hoses and connectors.

**LIMITATIONS**

The Federal Emission Design and Defect Warranty shall not cover any of the following:

- (a) conditions resulting from tampering, misuse, improper adjustment (unless they were made by the dealer or service center authorized by Shindaiwa Kogyo Co., Ltd. during a warranty repair), alteration, accident, failure to use the recommended fuel and oil, or not performing required maintenance services,
- (b) the replacement parts used for required maintenance services,
- (c) consequential parts used for required maintenance services,
- (d) diagnosis and inspection fees that do not result in eligible warranty service being performed, and
- (e) any non-authorized replacement part, or malfunction of authorized parts due to use of non-authorized parts.

## Attention Statements



### WARNING!

A statement preceded by the triangular Attention Symbol and the word WARNING contains information that should be acted upon to prevent serious bodily injury.



Read and follow this Operator's Manual. Failure to do so could result in serious injury.



Wear eye and hearing protection at all times during the operation of this unit.



The blades are SHARP! Handle with care.



Keep hands clear of the cutter blades when starting the engine.



Do not operate this unit if you are tired, ill or under the influence of alcohol, drugs, or medicine.

### CAUTION!

A statement preceded by the word CAUTION contains information that should be acted upon to avoid damaging the unit.

### IMPORTANT!

A statement preceded by the word IMPORTANT is one that possesses special significance.

### IMPORTANT!

The operational procedures described in this manual are intended to help you get the most from this unit, and to protect you and others from harm. These procedures are guidelines for safe operation under most conditions, and are not intended to replace any safety rules and/or laws that may be in force in your area.

If you have questions regarding your HT230, or if you do not understand something in this manual, your Shindaiwa dealer will be glad to assist you.

You may also contact Shindaiwa, Inc., at the address printed on the back of this manual.

## General Safety Instructions

### Work Safely

Hedge trimmers operate at very high speeds and can do serious damage or injury if they are misused or abused. *Never allow a person without training or instruction to operate this unit!*



#### **WARNING!**

Never make unauthorized attachment installations.



#### **WARNING!**

##### Use Good Judgment

**NEVER** run the engine when transporting the unit.

**NEVER** run the engine indoors! Make sure there is always good ventilation. Fumes from engine exhaust can cause serious injury or death.

**ALWAYS** use the proper cutting tool for the job.

**ALWAYS** stop the unit immediately if it suddenly begins to vibrate or shake. Inspect for broken, missing or improperly installed parts or attachments.

**ALWAYS** keep the unit as clean as practical. Keep it free of loose vegetation, mud, etc.

**ALWAYS** hold the unit firmly with both hands when cutting or trimming, and maintain control at all times.

**ALWAYS** keep the handles clean.

**ALWAYS** disconnect the spark plug wire before performing any maintenance work.

**ALWAYS**, if the cutter should bind fast in a cut, shut off the engine immediately. Push the branch to ease the bind and free the cutter.

### Stay Alert

You must be physically and mentally fit to operate this unit safely.



#### **WARNING!**



Never operate power equipment of any kind if you are tired or if you are under the influence of alcohol, drugs, medication or any other substance that could affect your ability or judgement.



#### **WARNING!**

##### Minimize the Risk of Fire

**NEVER** smoke or light fires near the unit.

**ALWAYS** stop the engine and allow it to cool before refueling. Avoid overfilling and wipe off any fuel that may have spilled.

**ALWAYS** inspect the unit for fuel leaks before each use. During each refill, check that no fuel leaks from around the fuel cap and/or fuel tank. If fuel leaks are evident, stop using the unit immediately. Fuel leaks must be repaired before using the unit.

**ALWAYS** move the unit to a place well away from a fuel storage area or other readily flammable materials before starting the engine.

**NEVER** place flammable material close to the engine muffler.

**NEVER** run the engine without the spark arrester screen in place.

## Troubleshooting Guide (continued)

### ADDITIONAL PROBLEMS (cont.)

Cutters move at engine idle.

Engine idle too high.

| Set idle: 3,000 ( $\pm 250$ ) rpm (min $^{-1}$ )

Broken clutch spring or worn clutch spring boss.

| Replace spring/shoes as required, check idle speed.

Excessive vibration

Warpred or damaged guide bar or cutters

| Inspect and replace as required.

Damaged gearcase or cam case.

| Consult with an authorized servicing dealer.

Shoulder bolts/cutters worn or out of adjustment.

| Adjust or replace as required. See page 16 for adjustment procedure.

## Troubleshooting Guide (continued)

ADDITIONAL PROBLEMS		
Symptom	Possible Cause	Remedy
Poor acceleration.	Clogged air filter. Clogged fuel filter. Carburetor mixture too lean. Idle speed set too low.	Clean or replace the air filter.   Replace the fuel filter.   Consult with an authorized servicing dealer.   Adjust: 3,000 ( $\pm 250$ ) rpm (min <sup>-1</sup> ).
Engine stops abruptly.	Switch turned off. Fuel tank empty. Water in the fuel. Clogged fuel filter.	Reset the switch and re-start. Refill with clean fresh unleaded gasoline with a pump octane of 87 or higher, mixed with Shindaiwa Premium 2-cycle mixing oil at a 50:1 gasoline/oil ratio. Drain; replace with fresh fuel mixture. See above. Replace fuel filter.
	Shorted spark plug or loose terminal. Ignition failure. Piston seizure.	Clean or replace the plug with a Champion CJ8 or equivalent type spark plug of the correct heat range. For EMC compliance, use NGK BMR6A Re-start.   Replace the ignition unit.   Consult with an authorized servicing dealer.
Engine difficult to shut off.	Ground (stop) wire is disconnected, or switch is defective. Overheating due to incorrect spark plug. Overheated engine.	Test and replace as required. Replace the plug with a Champion CJ8 or equivalent type spark plug of the correct heat range. For EMC compliance, use NGK BMR6A Re-start.   Idle engine until cool.

## General Safety Instructions

### WORK SAFELY!

**Always** wear close-fitting clothing. Gloves offer added protection and are strongly recommended. Do not wear clothing or jewelry that could get caught in machinery. Secure long hair so that it is above shoulder level.

**Avoid** using or storing this unit in a wet environment. Water on the cutters may enter the gearcase and damage your machine.

**Always** wear eye, ear, and hand protection while operating this unit!

**Never** cut metal objects or wire with the blade.

**Never** operate this unit if the safety guard is damaged!

**Never** operate this unit at full throttle no-load rpm!

**Always** operate with both hands firmly gripping the unit.

**Avoid** cutting large or extremely "woody" branches. Doing so can shorten cutter life, and may also damage the gearcase.

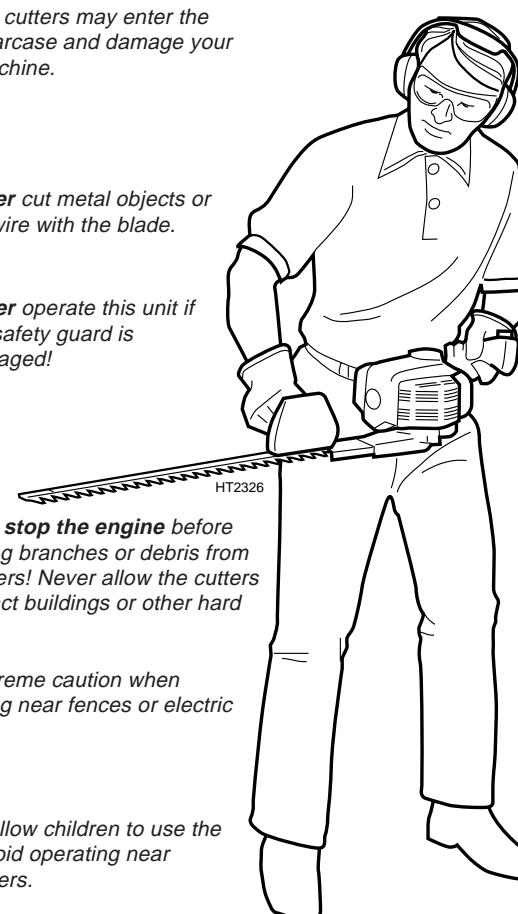
**Always stop the engine** before removing branches or debris from the cutters! Never allow the cutters to contact buildings or other hard objects!

**Use** extreme caution when operating near fences or electric wiring.

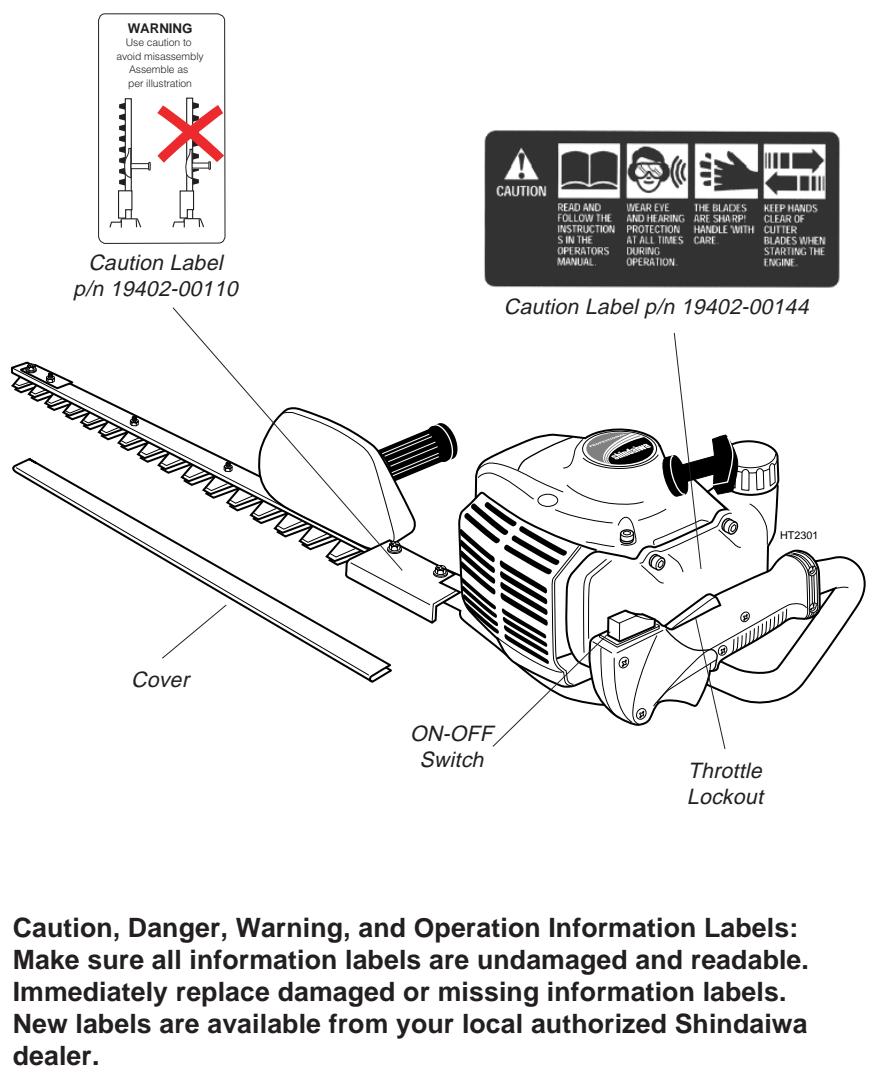
**Always stop the engine** and install the blade cover before moving to another work site, and maintain a firm footing while operating or carrying the hedge trimmer.

**Never** allow children to use the unit. Avoid operating near bystanders.

**Always** keep proper footing and do not overreach. Maintain your balance at all times during operation.



## Safety Equipment and Labels

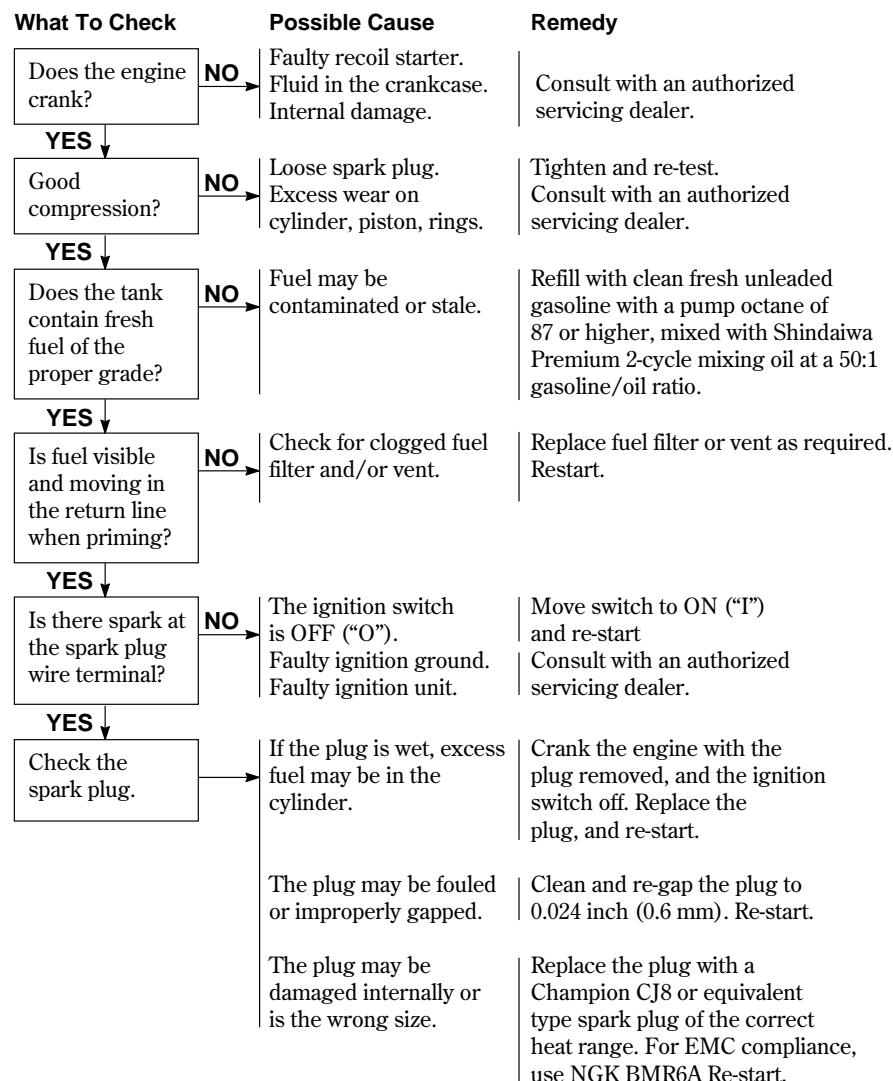


## Troubleshooting Guide (continued)

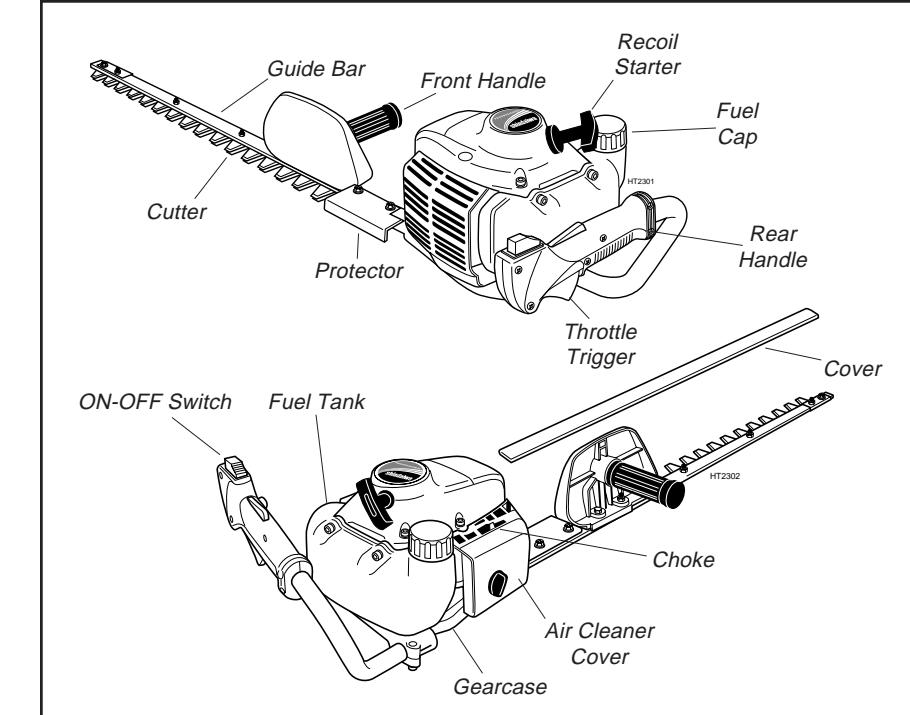
LOW POWER OUTPUT		
What To Check	Possible Cause	Remedy
Is the engine overheating?	Operator is overworking the unit.	Cut at a slower rate.
	Carburetor mixture is too lean.	Consult with an authorized servicing dealer.
	Improper fuel/oil ratio.	Refill with clean fresh unleaded gasoline with a pump octane of 87 or higher, mixed with Shindaiwa Premium 2-cycle mixing oil at a 50:1 gasoline/oil ratio.
	Fan, fan cover, cylinder fins dirty or damaged.	Clean, repair, or replace as necessary.
	Carbon deposits on the piston or in the muffler.	Consult with an authorized servicing dealer.
Engine is rough at all speeds. May also have black smoke and/or unburned fuel at the exhaust.	Clogged air filter.  Loose or damaged spark plug.	Clean or replace the filter.  Tighten or replace the plug with a Champion CJ8 or equivalent type spark plug of the correct heat range. For EMC compliance, use NGK BMR6A Re-start.
	Air leakage or clogged fuel line.	Repair or replace filter and/or fuel line.
	Water in the fuel.	Refill with fresh fuel mixture. See page 9.
	Piston seizure.	Consult with an authorized servicing dealer.
	Faulty carburetor and/or diaphragm.	Consult with an authorized servicing dealer.
Engine is knocking.	Overheating condition.  Improper fuel.	See above.  Check fuel octane rating; check for presence of alcohol in the fuel. Refuel as necessary. See page 9.
	Carbon deposits in the combustion chamber.	Consult with an authorized servicing dealer.

## Troubleshooting Guide

### ENGINE DOES NOT START



## Unit Description



DESCRIPTION

### Assembly and Adjustments



#### WARNING!

Do not make unauthorized modifications or alterations to this unit or to any of its components or accessories.

#### IMPORTANT!

The terms "left," "left-hand," and "LH"; "right," "right-hand," and "RH"; "front" and "rear" refer to directions as viewed by the operator during normal operation of this unit.

This unit comes fully assembled.

### Prior To Using

Before using this product, please make sure you have all the components required for a complete unit:

- Engine assembly and gearcase/cutter assembly
- Combination spark plug/13mm wrench

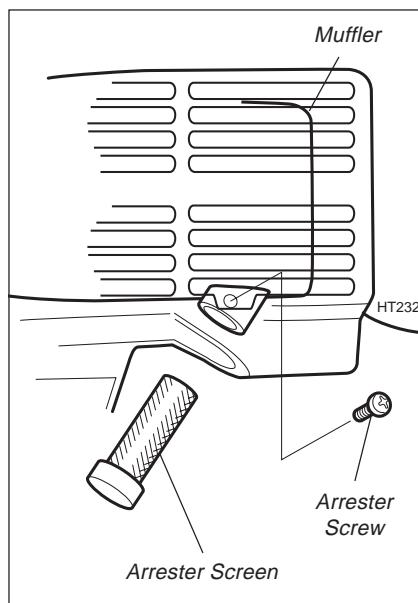
## Specifications

Model .....	HT230-30/HT230-40
Engine Model .....	SHT230
Engine Type .....	2-cycle, horizontal cylinder, air cooled
Engine Bore x Stroke .....	32mm x 28mm
Engine Displacement .....	22.5cc
Engine Weight, (dry) .....	2.6kg (5.73 lb)
Max. Power .....	1.1 hp @ 8000 rpm
Fuel/Oil Ratio .....	50:1 with Shindaiwa Premium 2-cycle mixing oil
Fuel Tank Capacity .....	0.7 liter/24 oz.
Carburetor .....	Walbro WYJ,Diaphragm type
Ignition .....	Fully electronic,transistor controlled
Spark Plug .....	Champion CJ8 For Electromagnetic Compliance (EMC), use NGK BMR6A
Air Cleaner .....	Foam Element
Starting Method .....	Recoil type
Stopping Method .....	Slide switch, grounding type
Unit Dimensions (LxWxH)	
HT230-30: .....	990 x 210 x 210mm
HT230-40: .....	1330 x 210 x 210mm
Engine and Cutter Weight, Less Fuel	
HT230-30: .....	5.5kg (12.23 lb)
HT230-40: .....	6.0kg (13.23 lb)
Blade Length	
HT230-30: .....	740mm
HT230-40: .....	1080mm
Blade Type .....	Double-blade cutting action: single-edged blade
Clutch .....	Fully automatic centrifugal clutch, dry-type
Gear Type .....	Spur gears
Gear Lubrication .....	High Quality Lithium Grease
Standard Equipment	
Rear handle with integral controls, anti-vibe mountings. Front handle with guard. Blade scabbard (cover).	
Options .....	Deflector shield

Specifications subject to change without notice.

## Every 135 Hours

(or whenever hard starting or poor performance are noted):



Remove the spark arrester screen, and use a wire brush to gently remove excess carbon deposits.

- A damaged or otherwise unserviceable screen must be replaced.
- If carbon accumulations in the muffler or cylinder are severe, return the trimmer to your dealer for inspection.



### WARNING!

Never operate this unit with a damaged or missing muffler or spark arrester! Operating with missing or damaged exhaust components is a fire hazard, and may also damage your hearing.

## Long Term Storage

Whenever the unit will not be used for 30 days or longer, use the following procedures to prepare it for storage:

- Clean external parts thoroughly.
- Drain all the fuel from the carburetor and the fuel tank.

### IMPORTANT!

All stored fuels should be stabilized with a fuel stabilizer such as STA-BIL®.

To remove the remaining fuel from the fuel lines and carburetor and with the fuel drained from the fuel tank.

1. Prime the primer bulb until no more fuel is passing through.
2. Start and run the engine until it stops running.
3. Repeat steps 1 and 2 until the engine will no longer start.

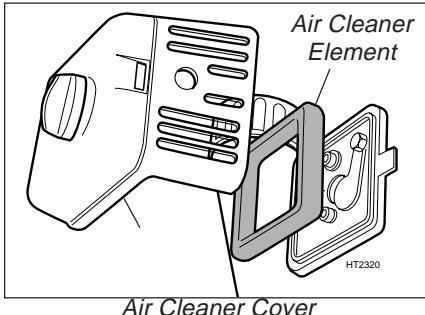
### CAUTION!

Gasoline stored in the carburetor for extended periods can cause hard starting, and could also lead to increased service and maintenance costs.

- Remove the spark plug and pour about 1/4 ounce of 2-cycle mixing oil into the cylinder through the spark plug hole. Slowly pull the recoil starter 2 or 3 times so oil will evenly coat the interior of the engine. Reinstall the spark plug.
- Before storing the unit, repair or replace any worn or damaged parts.
- Remove the air cleaner element from the carburetor and clean it thoroughly with soap and water, let dry and reassemble the element.
- Store the machine in a clean, dust-free area.

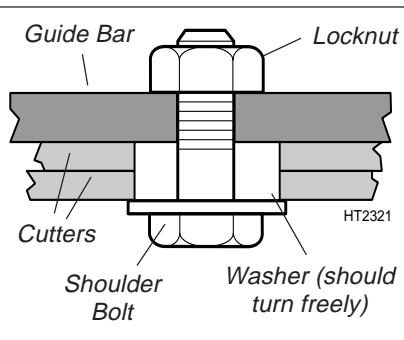
**Every 50 hours (cont.)**

- Remove the air cleaner element, and wash the element in clean, neutral solvent or warm soapy water. Rinse the element thoroughly, and then squeeze dry before reassembly.
- Check the cutters for damage, improper adjustment, or signs of excess wear, and adjust or replace as required.

**How to Adjust the Cutter****Shoulder Bolts**

- Loosen all cutter locknuts.
- Tighten each cutter shoulder bolt firmly, and then loosen the shoulder bolts 1/4 to 1/2 turn.
- Working from the powerhead, lock each bolt in place by firmly tightening its locknut while preventing the shoulder bolt from turning.

When shoulder bolt adjustment is correct, there should be a gap of 0.25–0.50mm between cutters and the flat washer beneath each bolt head should turn freely.

**CAUTION!**

Operating the hedge trimmer with worn or improperly adjusted cutters will reduce cutting performance and may also damage the unit.

**Every 100 Hours**

(or before long-term storage)

Remove the gearcase cover, and use solvent and a soft brush to remove all old grease from the gearcase. To refill, hand-pack the gearcase with approximately 40–50 grams of high quality lithium-based grease (50–70% of capacity). DO NOT OVERFILL!

**Mixing Fuel****CAUTION!**

Some gasolines contain alcohol as an oxygenate! Oxygenated fuels may cause increased operating temperatures. Under certain conditions, alcohol-based fuels may also reduce the lubricating qualities of some mixing oils. Never use any fuel containing more than 10% alcohol by volume! Generic oils and some outboard motor oils may not be intended for use in high-performance air cooled 2-cycle engines, and should never be used in your Shindaiwa engine!

**CAUTION!**

This engine is designed to operate on a 50:1 mixture consisting of unleaded gasoline and a premium 2-cycle mixing oil only. Use of Non-approved mixing oils can lead to excessive maintenance costs and/or engine damage.

- Use only fresh, clean unleaded gasoline with a pump octane rating of 87 or higher.
- Mix gasoline with 50:1 Shindaiwa Premium 2-cycle mixing oil or with an equivalent high quality 2-cycle mixing oil.

**Example of 50:1 mixing quantites:**

- 1 gallon of gasoline to 2.6 oz. mixing oil.
- 5 litres of gasoline to 100 ml. mixing oil.

**IMPORTANT!**

Mix only enough fuel for your immediate needs! If fuel must be stored longer than 30 days and Shindaiwa One oil with fuel stabilizer is not used, it should first be treated with a fuel stabilizer such as StaBil™.

**Filling the Fuel Tank****WARNING!**

**Minimize the risk of fire!**

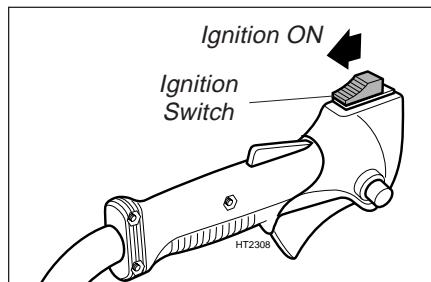
- STOP the engine before refueling.
- ALWAYS allow the unit to cool before refueling!
- Wipe all spilled fuel and move the unit at least 10 feet (3 meters) from the fueling point before restarting!
- NEVER start or operate this unit if there is a fuel leak.
- NEVER start or operate this unit if the carburetor, fuel lines, fuel tank and/or fuel tank cap are damaged.
- NEVER smoke or light any fires near the unit or fuels!
- NEVER place any flammable material near the engine muffler!
- NEVER operate the engine without the muffler and spark arrester in place and properly functioning!

- Place the hedge trimmer on the ground or on a flat surface.
- Clear any dirt or other debris from around the fuel filler cap.
- Remove the fuel cap slowly, and fill the fuel tank with clean, fresh fuel mixture.
- Replace and firmly tighten the fuel cap.

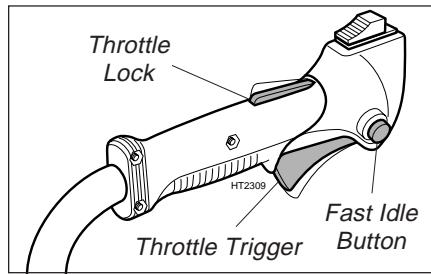
## Starting Engine

### IMPORTANT!

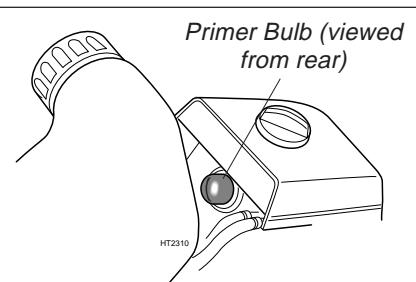
Engine ignition is controlled by a two position switch mounted on the throttle housing labeled, "I" for ON or START and "O" for OFF or STOP.



1. Slide the ignition switch to the "I" position (engine ON).



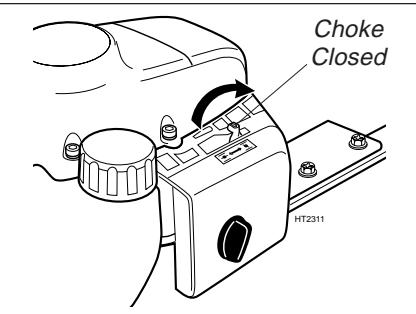
2. Set the throttle trigger to the "fast idle" position by performing the following:
  - a. Depress and hold the throttle lock, and then squeeze the throttle trigger.
  - b. Depress and hold the "fast idle" button.
  - c. While depressing the fast idle button, release the throttle lock and throttle trigger.



3. Press the primer bulb until fuel can be seen flowing in the transparent return tube.

### IMPORTANT!

The primer system only pushes fuel through the carburetor. Repeatedly pressing the primer bulb will not flood the engine with fuel.



4. (Cold Engine Only) Set the choke lever to the CLOSED position.



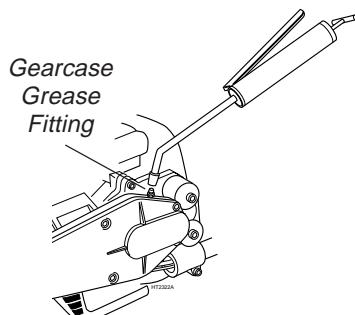
### WARNING!

**KEEP CLEAR OF THE CUTTERS DURING STARTING OPERATIONS! THE CUTTERS MAY OSCILLATE WHEN THE ENGINE IS STARTED!**

- Place the trimmer on the ground during all starting operations.
- Make sure you have a secure footing, and keep a firm grip on the unit as well.
- Keep all bystanders and pets well clear of the trimmer during starting operations.

## Gearcase Lubrication Schedule Every 20 Hours

### VIEWED FROM THE BOTTOM

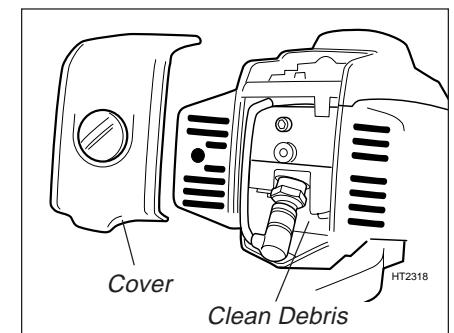


### CAUTION!

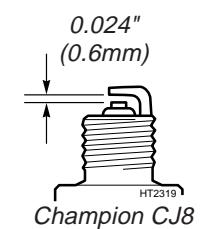
- Do not remove the conrods from the cutters. Conrod bearings can be lost or damaged if disturbed.
- Over-lubricating may cause the gearcase to run slower than normal, and may also cause leakage from excess grease.

## Every 50 hours (more often in dusty or extreme conditions)

1. Remove the cylinder cover, and clean any grass and debris from the cylinder fins.



2. Remove and inspect the spark plug. Replace any damaged or worn spark plug with a new Champion CJ8 or equivalent spark plug of the same heat range. Adjust spark plug gap to 0.024 inch (0.6mm) and reinstall. If a torque wrench is available, torque the plug to 148–165 in.-lbs.



## Maintenance and Adjustments

### IMPORTANT!

MAINTENANCE, REPLACEMENT OR REPAIR OF EMISSION CONTROL DEVICES AND SYSTEMS MAY BE PERFORMED BY ANY REPAIR ESTABLISHMENT OR INDIVIDUAL; HOWEVER, WARRANTY REPAIRS MUST BE PERFORMED BY A DEALER OR SERVICE CENTER AUTHORIZED BY SHINDAIWA KOGYO CO., LTD. THE USE OF PARTS THAT ARE NOT EQUIVALENT IN PERFORMANCE AND DURABILITY TO AUTHORIZED PARTS MAY IMPAIR THE EFFECTIVENESS OF THE EMISSION CONTROL SYSTEM AND MAY HAVE A BEARING ON THE OUTCOME OF A WARRANTY CLAIM.



### WARNING!

Accidental start-ups can cause severe injury! Before performing any maintenance on this equipment, stop the engine and disconnect the spark plug!

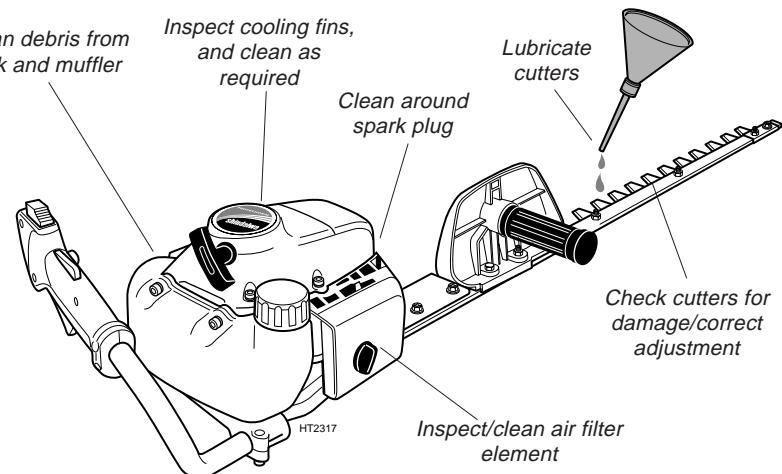
### Daily Maintenance/Inspection

1. Remove all grass clippings and dirt from the hedge trimmer.
  - Remove any compacted debris from around the fuel tank and/or muffler.
  - Inspect the engine cooling fins for clogging, and clean as necessary.
  - Clean beneath the cylinder cover and around the spark plug.
  - Inspect the air filter element for clogging, clean as necessary.
2. Check for loose, damaged, or missing components, and repair as necessary.
3. Lubricate the cutters with oil before use, and after refueling.
4. Check the cutters for damage or improper adjustment, and adjust or replace as necessary.



### WARNING!

To reduce fire hazard, keep the engine and muffler free of debris, leaves, or excessive grease.

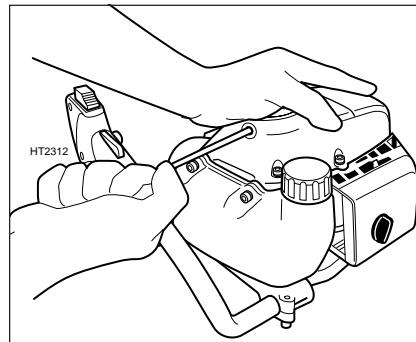


## Starting the Engine (continued)



### WARNING!

Never start the engine from the operating position.



5. Place the unit on the ground. Grip the engine cover with your left hand and the starter handle with your right hand (shown).
6. Pull the starter handle slowly toward you until you feel the starter mechanism engage.
7. Start the trimmer by pulling the starting handle rapidly outward.

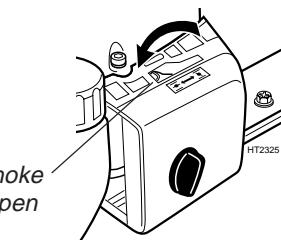
### CAUTION!

Do not pull the recoil starter to the end of the rope travel. Pulling the recoil starter to the end of the rope travel can damage the starter.

### IMPORTANT!

If the engine fails to start after several attempts with the choke in the closed position, the engine may be flooded with fuel. If flooding is suspected, move the choke lever to the open position and repeatedly pull the recoil starter to remove excess fuel and start the engine. If the engine still fails to start, refer to the next page "Starting a Flooded Engine".

### When the engine starts or fires—



1. Open the choke by moving the choke lever *backward* (toward the fuel tank).
2. If the engine did not continue to run, repeat the appropriate cranking procedures for a cold or warm engine.
3. When the engine starts, clear excess fuel from the combustion chamber by accelerating the engine several times with the throttle lever.



### WARNING!

The cutting attachment will oscillate when the engine accelerates!

4. Operating the throttle will automatically disengage the fast idle setting.

### If the engine does not start—

- Repeat the appropriate starting procedure for a cold or warm engine.
- If the engine still fails to start, use the procedures for "Starting a flooded engine," on the next page.

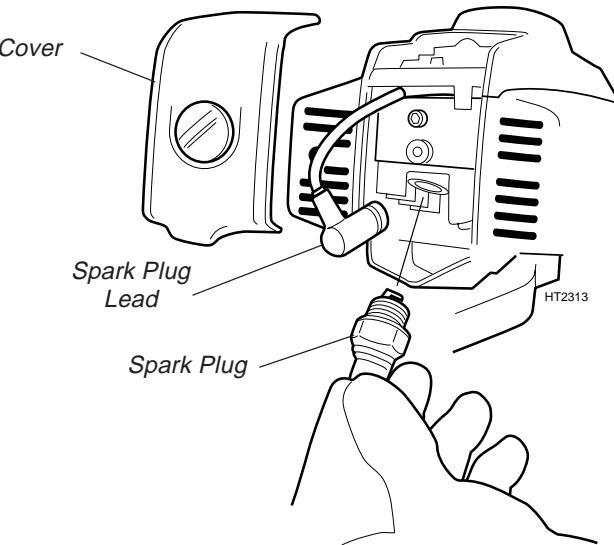
## Starting a Flooded Engine



### WARNING!

Burn danger from hot engine!  
Allow engine to cool before  
removing cylinder cover.

1. Disconnect the spark plug lead, and then use the spark plug wrench to loosen and remove the spark plug.
2. If the spark plug is fouled or is soaked with fuel, clean or replace the plug as necessary. For spark plug specifications and gapping procedure, see page 19.
3. With the spark plug removed, and the ignition switch off, crank the engine several times to clear excess fuel from the combustion chamber.



4. Replace the spark plug and tighten it firmly with the spark plug wrench. If a torque wrench is available, torque the spark plug to 148-165 inch-pounds (170-190 kg/cm).

5. Replace the cylinder cover.

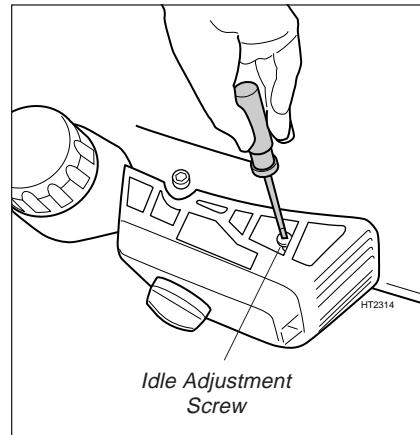
### CAUTION!

Incorrect spark plug installation can damage the engine!

6. Repeat the starting procedures for a warm engine.
7. If the engine still fails to start or fire, refer to the troubleshooting chart at the end of this manual.

## Adjusting Engine Idle

The engine **must** return to idle speed whenever the throttle lever is released. Idle speed is adjustable, and **must** be set low enough to permit the engine clutch to disengage the cutters.



## Stopping the Engine

*Ignition OFF*

*Ignition Switch*

1. Cool the engine by allowing it to idle for 2-3 minutes.
2. Move the ignition switch to the "O" or STOP position.

## Operation

- Squeezing the throttle increases engine speed, causing the clutch to engage and operate the cutters.
- Releasing the throttle decreases engine speed, causing the cutters to slow, and then stop altogether as the clutch disengages.
- Use a sweeping motion when cutting, and vary throttle settings often.
- Avoid cutting material larger than 1/2 inch in diameter.



### WARNING!

The cutters must NEVER engage at engine idle speeds! If the idle speed cannot be adjusted by the above procedure, return the trimmer to your Shindaiwa dealer for inspection.